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► To cite this version:

Faruk Ülgen. Paving the way for reconsidering the working of market economies: the Minsky perspective. 16th conference of the Research network macroeconomics and macroeconomic policies (FMM) "The state of economics after the crisis", Oct 2012, Berlin, Germany. halshs-00868521

HAL Id: halshs-00868521

<https://shs.hal.science/halshs-00868521>

Submitted on 1 Oct 2013

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*16th CONFERENCE OF
THE RESEARCH NETWORK MACROECONOMICS AND
MACROECONOMIC POLICIES (FMM):*

THE STATE OF ECONOMICS AFTER THE CRISIS

25 – 27 OCTOBER 2012, BERLIN

*“PAVING THE WAY FOR RECONSIDERING THE
WORKING OF MARKET ECONOMIES: THE
MINSKY PERSPECTIVE”*

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Abstract

This essay develops the financial instability hypothesis of Hyman Minsky through an analysis of the pitfalls of the liberal regulatory framework in order to deal with long-standing and long-lasting financial issues of capitalist economies. It argues that the roots of the 2007/08 crisis are closely related to the regulatory environment in force. Since the 1970s, major capitalist economies evolve towards a new accumulation regime resting on a deep financialisation leading into growing speculative and short-sighted economic activities that generate recurrent crises. This evolution is encouraged and accompanied by market-friendly (de)regulatory mechanisms mainly founded on the belief that liberalised markets are globally self-adjusting. To cope with the pitfalls of such beliefs, the financial instability hypothesis assumes that the functioning of financialised capitalism endogenously generates instabilities and identifies the capital development as the core issue in capitalist evolution. From this perspective, some simple policy principles are suggested to design consistent regulatory mechanisms in order to reduce systemic failures and their consequences in the capitalist economy.

Keywords: Financial liberalisation, financial instability, Minsky, regulation

JEL Classification Codes: E12 - E44 - G01 - G18

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Introduction

The 2007/08 financial crisis is the major outcome of a long period of *financial liberalisation-modernisation* policies implemented all around the World since the 1970s. Its scope and length are the results of the depth of malfunctioning of advanced capitalist economies. This ongoing crisis has a global and structural character since it expands beyond some United-States' institutions and its consequences overwhelm several economies and regions like the Euro-zone and emerging countries. After more than four decades of liberal intellectual and political hegemony, this crisis is also the expression of the profound disarray of the dominant economic theory. It manifestly challenges the blind faith in free and self-adjusting markets.

The approach taken here does not involve an exhaustive review of different models that seek to apprehend the financial instability of market economies. The aim of this essay consists in developing the financial instability hypothesis of Hyman Minsky as a relevant analysis of the pitfalls of the liberal regulatory framework and related stability concerns. Market-friendly regulatory environment - resting on the hypothesis of self-adjusting free markets - leads to the financialisation of economic structures where economic actors' preferences become mainly oriented towards short-term speculative investments. A new accumulation regime then dominates the path of economic evolution - thanks to the striking ignorance of interdependencies among various macroeconomic effects of the microeconomic behaviour of economic actors - and generates systemic difficulties. Subsequent financial distresses often result in systemic freeze on debt-commitments and markets reveal to be no more able to recover their social function. In view of this situation, public interventions are required as the unique solution in order to calm down panicked and disorganized individuals' madness. The main conclusion is that the continuity of economic relations calls for coordinated and planned interventions of authorities and new regulatory schemes have to be developed and implemented beyond the liberal ideological beliefs.

To reach this conclusion, the essay is developed through four sections. The second section briefly recalls the theoretical foundations of the new regulatory framework. It states that market-friendly (de)regulatory mechanisms, founded on non monetary general equilibrium models' doctrinal beliefs, led markets into

(highly) financialised economy and encouraged and accompanied a new accumulation regime. The third section then points to the change of the regime of accumulation. To date, the new accumulation regime in most advanced capitalist economies is related to the rule of deeply financialised profit-seeking activities through high degree of speculation and short-sighted opportunism without ensuring a sustainable growth path. The fourth section intends showing that mechanisms identified in Minsky's financial instability hypothesis are relevant to understand the neoliberal era's pitfalls. In the Minsky theory liberal beliefs are rejected as the working of financialised capitalism is assumed to endogenously generate instabilities. A decentralised monetary capitalist economy evolves through private profit-seeking opportunities and in the absence of collectively designed systemic framework the macro result of micro decisions cannot be a globally consistent equilibrium. The fifth section argues that the Minsky's theory is a theory of structural changes in capitalist financial systems and can give us a relevant conceptual basis to design relevant regulatory mechanisms in order to reduce systemic failures and their consequences in the capitalist economy of which the core issue is the problem of capital development. The last section concludes.

1. New regulatory environment: some fuzzy foundations and misleading orientation

In a dynamic and complex market economy, economic agents' behaviour is closely shaped out of a given regulatory environment. On financial markets, banks' behaviour responds to some environment-specific constraints designed by the regulatory framework implemented by monetary and financial authorities (Ülgen, 2013). It is usually assumed that banks change their market strategies and innovate in order to reduce or to avoid existing regulatory constraints, compelling authorities to design new regulatory framework (Kane, 1988; Goodhart, 1995). The behaviour of banks is also related to the financial liberalisation (deregulation) which has fuelled competition on financial markets. When regulatory constraints are relaxed, banks try to innovate more in order to be able to compete with each other or against other financial intermediaries. Those environment-specific constraints work together to shape banks' behaviour and affect the systemic stability as the financing conditions of economic activities constitute one of the crucial concerns in a monetary capitalist economy.

The regulatory environment in force rests on a fuzzy interpretation of (non monetary) general equilibrium models by New classical economics. In this vein, academic researches as well as economic policies implemented in most advanced and emerging economies advocated that liberalised markets were able to lead economies on more consistent growth path without necessitating permanent and activist economic policies. The scientific foundations of the (well) working of a

decentralised and private markets-based economy are offered by the neo-Walrasian Arrow-Debreu-Hahn model of perfectly competitive economy in the 1950-60s. The development of this framework argued that under the axioms of a perfect competition, markets (financial markets included) do behave efficiently when strict public regulatory schemes are abolished in favour of more open markets and market-friendly economic policies. From the 1970s, the rational expectations revolution in economics led to the conclusion that activist fiscal and monetary policies were not useful in time and should be given up. Although the first generation of monetarists (like Milton Friedman) recognizes that money may not be neutral in the short run, they assume its neutrality in the long run. With rational expectations revolution, the money is assumed to be neutral also within the short run and to be super-neutral as long as changes in the steady-rate of money supply do not modify the real growth path. Only an unanticipated monetary policy is assumed to be able to affect real output within the short run thus anticipated monetary changes are neutral with respect to output and unemployment (economic policies are assumed to be counterproductive). Instability is then supposed to come from policy errors or institutional weaknesses.

The liberal propensity of this interpretation to let the market decide of the organisation of system-wide monetary and financial relations leaves out the issues related to the sophistication of financial structures that a capitalist economy can generate in its own evolution. As Kindleberger (1989: 81) remarks: “Friedman favors variety and diversity in money and capital, as in all other markets, and believes it a sign of the ingenuity and efficiency of the free market that financial intermediaries develop to reconcile the needs of borrowers and lenders. (...) still another viewpoint on the relations of money and banking to economic stability has come into prominence from the neo-Austrian school which wants to decontrol money and banking entirely. [neo-Austrian economists] go far beyond the monetarists in their readiness to abolish active monetary policy”.

The free market’s efficiency hypothesis is one of the main reference-concepts in those approaches that depend on the assumption of (always) rational economic behaviour asserting that people acting in their own self-interest would allow economy to reach an efficient self-organisation of markets. Such a paradigm stipulates that the market prices provide all required information to make separate individual behaviour globally compatible with each other so as manias and panics cannot occur¹. This paradigm is called by Shiller (2002, pp. 1-2) *the*

¹ The usual reference is to Fama (1970) but also to Jensen (1978). However, there is a growing dissent among economists about the very sense of the efficiency hypothesis especially in the wake of recurrent banking and financial crises since the 1980s. For a critique of this paradigm, see Shleifer (2000), Shiller (2002), Gilson and Kraakman (2003) and Guerrien and Gün (2011).

neoclassical revolution in finance that “began with the capital asset pricing model and efficient markets theory around the 1960s, and with the inter-temporal capital asset pricing model and arbitrage-based option-pricing theory in the 1970s.” Such mechanism is supposed to be able to allow economy to spontaneously secure equilibrium conditions without necessitating an external state intervention on markets. Consequently, the regulatory models change into more free and private evaluation (rating) schemas and assert that capital markets price securities correctly with respect to expected risk and return and actors are able to make optimal decisions to correctly manage risks. Thus it is assumed that free financial markets minimise the possibility of financial crises and the need for government bailouts. Timothy Geithner stated in 2006 that “In the financial system we have today, with less risk concentrated in banks, the probability of systemic financial crises may be lower than in traditional bank-centered financial systems”.² The dominant approach of financial regulation then let the systemic safety depend on individual choice of institutions and central banks and financial authorities began to implement loose regulatory framework through a withdrawal of macro-prudential mechanisms for the benefit of the models of self/market-based regulation. The deregulatory scheme enabled micro-units to adopt strategies ceding to banks and to ratings agencies the core of the regulatory power without worrying about the systemic instabilities. The great moderation provided by low inflation levels in major economies led central banks to have more confidence in their deregulated managing rules of monetary and financial markets (Morgan, 2009). As long as the inflationary pressures were maintained in an acceptable interval, central banks were considering the speculative debt-related economic growth as a suitable way for a sustainable growth. Thus, instead of reconsidering the regulatory weakness of the system, the Fed implemented easy money policies facilitating leverage operations and then to avoid a deep financial crisis in the aftermath of the late 1990s booms. The new environment is then related to a conscious evolution that rests on the economic models which suppose that the free markets are capable of stabilizing without exogenous intervention (Ülgen, 2011a).

Under the pressure of opening of national economies and financial liberalisation from the 1980s, banks and financial intermediaries are incited to create different ways of making competition in order to defend their market shares or to enter new markets. Subsequently an unprecedented expansion of financial innovations took place throughout a rich set of market-oriented activities and new products and processes have appeared on markets. In this period, some crucial weaknesses can be brought to the fore like the self-regulation principle that generates a conflict of interest. The credit-rating agencies that constitute in the new

² Comments by New York Fed President Timothy Geithner, Wall Street Journal, 30 May 2008.

(de)regulatory framework the main self-control mechanism of debt markets, have two opposite roles: they evaluate the quality of banks and financial institutions' products and processes and they elaborate with these institutions new debt packages to be rated. As they are paid by the users of the securities, they are usually inclined to give good ratings for these products. This provokes confusion between two sides, the activity of evaluation of banks by rating agencies and the activity of creation of new products and processes to be rated. The profits of those agencies therefore depend on whether they rate these banks nicely, thus there is an incentive to high ratings³. In addition, fee incomes are generated by the mortgage securitisation operations to banks and brokers (the sellers) as well as to investment bankers and institutions which transforming the loans into securities and serviced them and rating agencies that evaluate them (thus affect the market price of the final products)⁴. Moreover, as there was no compensation mechanism when the securities issued suffer losses, incentives to augment the issue of loans have been strong notwithstanding the possible unsoundness of the products sold. Obviously, such payment matrix creates counter-incentives in the market bonus system as it induces evaluators to be less objective and thus to give high ratings to non-transparent structured financial products⁵.

Goodhart and Lastra (2010) maintain that such an environment creates incentives for banks to look for new activities or products developing the non-regulated sector: "If regulation is effective, it will constrain the regulated from achieving their preferred, unrestricted, position, often by lowering their profitability and their return on capital. So the returns achievable within the regulated sector are likely to fall relative to those available on substitutes outside. There will be a switch of business from the regulated to the non-regulated sector. In order to protect their own businesses, those in the regulated

³ For instance, Crotty (2009: 566) remarks that: "In 2005, more than 40% of Moody's revenue came from rating securitised debt such as mortgage backed securities (MBSs) and collateralised debt obligations (CDOs)." King *et al.* (2012) also report that there were extensive conflicts of interest between leading economists supporting deregulation and financialisation process in the 1990-2000s and the financial establishment.

⁴ Total fees from home sales and mortgage securitisation from 2003 to 2008 have been estimated by Financial Times at \$2 trillion (reported by Crotty, 2009: 565).

⁵ Wall Street Journal reports that its survey among first 23 US financial actors (banks, various funds) indicates that Wall Street would pay its employees a total of \$140 billion (all payments included) in 2009 after a light drop in 2008 (\$117 billion) (14 October 2009)! Bonuses at Goldman are expected to average \$570,000 in 2009 in the midst of the crisis. About 700 employees of Merrill Lynch received bonuses in excess of \$1 million in 2008 from a total bonus pool of \$3.6 billion in spite of the fact that the firm lost \$27 billion (losses reported by Merrill totalled \$35.8 billion in 2007 and 2008). Another enlightening example of counter incentives is the case of the AIG's Financial Products unit: "This division, which gambled on credit default swaps (CDSs), contributed substantially to AIG's rising profits in the boom. In 2008 the unit lost \$40.5 billion. Though the US government owns 80% of AIG's shares and invested \$180 billion in the corporation, AIG nevertheless paid the 377 members of the division a total of \$220 million in bonuses for 2008 (...)" (Crotty, 2009: 565).

sector will seek to open up connected operations in the non-regulated sector, in order to catch the better opportunities there. The example of commercial banks setting up associated conduits, SIVs (structured investment vehicles) and hedge funds in the last credit bubble is a case in point”.

It is also revealed that the rating agencies were based their evaluations on the information given by those (the banks) they should rate. This led to highly leveraged mortgage lenders and holders of mortgage-backed securities. Therefore, investors have been encouraged to invest by the high ratings given to the instruments issued while the risk embodied in various forms of securities was of growing opacity and complexity. Furthermore, as Goodhart (2009: 17) remarks, credit rating agencies usually rate the credit default risk while many subsequent lenders who bought debt instruments “misinterpreted the ratings as covering market and liquidity risk as well”.

This evolution strengthened the quantitative development of financial systems that became more liquid, diversified and broader. But this has not been accompanied by the necessary improvement of the qualitative development of the market regulation so the supervision of financial relations became more difficult than in the past. Quinn (2009: 5) actually argues that “an over-reliance on private ordering has systematically failed to generate robust responses to market failures. The fragility of private ordering suggests going forward we must reorient our regulatory structures. Rather than rely primarily on private ordering, a more active regulatory structure is required to support robust institutions with private ordering playing a supporting role”.

2. New accumulation regime: a speculation-based evolution

Since the 1970s, the evolution of capitalism rests on deeply financialised profit-seeking activities through high degree of speculation and short-sighted opportunism. This rule is encouraged and accompanied by market-friendly (de)regulatory mechanisms. This led economies into a new regime of accumulation that relies on the profitability of growing debt burden and inflating financial markets without any corresponding sustainable real growth.

An increase of the role of banks and financial holdings that enlarged the financing of Leveraged Buy Outs (LBOs), takeovers and mergers of firms, and deficit adjustment operations of governments accompanied virtual and speculative economic growth all around the world. The price-stability or inflation-targeting-rule-based monetary policy has led to wage-deflation process, accompanied in the US by a sustained consumption thanks to low levels of interest rates and to easier/lax credit system allowing economic actors (including households) to spend more and more without a corresponding increase of regular

revenues⁶. When regular revenues do not increase, the only possibility to include large popular masses into the new accumulation regime is the easy (subprime) loans policy both of by banks and authorities. Thus, the new accumulation schema - using a new speculative tool, the house industry through new mortgage techniques - is permitted by the rise in homeownership since 2001 - after the end of the “dotcom bubble”⁷ - without the support of the rise of real income, the decrease of real estate prices or the enlargement of government subsidies. The fictitious increase in the demand for homes then comes into the picture by “magic” as the spending-ease optimism permitted individuals and institutions to further borrow/lend. This magic created confident expectations of continuously rising profits that increased the willingness to assume less sound liability structures and led banks to finance acquisitions of additional capital goods and real estate assets. The supply conditions for financing these acquisitions also reinforced the willingness to issue liabilities to finance such acquisitions and to stronger willingness of lenders to accept low-yield assets regarding the lenders’ risk (Minsky, 1982: 122 and 282). The willingness to issue liabilities is constrained by the need to hedge agents against the failure. When the perception of such an occurrence is reduced, the willingness to enter into new debt relations increases. A kind of attractive bubble emerging and speculative gains increasing over time, the optimism becomes very large. Therefore, the boom financed by the euphoria generates pervasive transformations in portfolios the liquidity level of which subsequently decreases. The case of the US economy seems to offer a good example to this new accumulation regime: “growth over the past few decades has been driven largely by rising household spending on consumption and residential investment. Consumption as a percent of GDP was 63% in 1980, 67% in 1998 and 70% in 2008. Since real wages were stagnant and real family income growth was slow, rising household spending was increasingly driven by the combined effects of rising debt and the increase in household wealth created by stock market and housing booms” (Crotty, 2009: 576)⁸.

Links between the 2007/08 crisis and the new accumulation regime’s characteristics can be observed through two phenomena in the 2000s. First, the households re-leveraged excessively rising consumption through increasing debt burdens and over-borrowing. This increase was supported by rising asset prices

⁶ Fernandez, Kaboub and Todorova (2008: 8-9) remark that between 1980 and 2004, wage income hardly changed in the US while worker productivity has increased by 68% and the Gini coefficient has been rising with a widening gap between the bottom and second quintiles and the top 20%.

⁷ It is worth noting that the space left by the end of the euphoria of new-technologies-backed markets in the second half of the 1990s is filled by the swelling of the mortgage bubble while such a bubble was provoked financial instabilities in the late 90s in the US, followed by Japan, and later by the so-called Asian crisis in 1997 (Ülgen, 2010).

⁸ As reported by Crotty (ibid) household debt was 48% of GDP in 1985, about where it had been in 1965. But it grew to 66% by 1998 then accelerated to over 100% by late 2008.

(housing and also equity). These new Ponzi-like borrowers and their funders were rested their expansion on negative amortisation mortgages. At the beginning, they were usual speculative borrowers who expected to be able to refinance their mortgages and debts in time thanks to the expected increase of market values of their assets. Second, at the same time loose credit standards among mortgage lenders reinforced the current credit cycle. This process spread to the corporate and financial system through the switch from equity to debt that took the form of LBOs that sustained the private equity and swelled the bulk of the equity market bubble. It is worth noting that this financial development was began in the 1980's with the growth in the money market mutuals in the US (Minsky, 1992). The optimism of lenders and borrowers is also driven by the growth in liquidity from hedge fund and private equity, feeding hot money funds. The fragile borrowers were able to obtain refinancing thanks to easy (speculative) credit on bubbly markets. As the wage income did not increase in the period, a speculative boom came into the picture when substantial and growing payment commitments had been related to the rising expectations that asset values would continue to be appreciated. In such a boom, the current and near term expected cash flows from participating in the production and distribution of income are not sufficient to meet the payment commitments but the expectations on the future market values of households' assets remain high.

It is obvious that the financing of households' debt positions can only be continuous if the expected value of the real estate assets is growing enough in order to permit households to reimburse their debts, i.e. when the expected value of houses is at least as high as the commitments necessitate: "In an ordinary home mortgage the primary source of the cash needed to fulfil the contract is the income of the homeowner. The secondary source or fallback source of cash is the market value of the mortgaged property" (Minsky, 1982: 19-20). In the development of the mortgage-based financial relations, the primary source of the real estate industry (homeowners' regular income) was dethroned by the secondary source as the expansion of the market was founded on the speculative expectations on the future market value of properties. As the evolution of this market value is related to the swelling of the bubbles, banks and other financial intermediaries did not take care of the multiplication of commitments which contributed to the swelling of the bubble. But such a financial system is naturally reckless and fragile. Minsky shows that many of the real estate investment trusts that came upon hard times in 1974-75 in the US were, quite unknowing to the household investors who bought their equities, involved in Ponzi schemes: "Many of these trusts were financing construction projects that had to be sold out quickly and at a favourable price if the debts to the trusts were to be paid. A tightening of mortgage credit brought on slowness of sales of finished construction, which led to a "present value reversal" for these projects" (1982:

106). The instability is related to this reversal of the present value of real estate assets. As Minsky remarks “Consumer and mortgage debt can become Ponzi-like only if actual wage income falls short of anticipated and other sources of disposal income” (1982: 30).

Fundamentally, it can be asserted that such a development is permitted by financial deregulatory policies letting monetary and financial institutions imagine and implement innovations to enlarge various profit opportunities without considering the underlying systemic fragilities. Authorities have supported the financialisation path with enthusiasm. Even after the dotcom crisis, bursting with optimism the International Monetary Fund (2003: 1) asserts that the financial markets showed a remarkable resilience and they are self reinforced despite a low economic growth in developed economies: “Since the March 2003 issue of the *Global Financial Stability Report* (GFSR), further progress has been made in addressing the lingering effects of the bursting of the equity price bubble. Household and corporate balance sheets have continued to improve gradually and corporate default levels have declined. Companies in mature markets have cut costs, enhancing their ability to cope with slower growth and other potential difficulties. While unambiguous signs of stronger growth are still lacking, corporations—particularly in the United States—have made good progress in their financial consolidation efforts and are in a better financial position to increase investment spending”.

3. Financialised capitalism: A crisis-prone economic system

From the perspective of Minsky it can be asserted that the origin of the financial instability lies in the way market economies operate and not in exogenous shocks. This instability has been experimented, among other cases, in the last two US credit booms and asset bubbles that ended up in a recession: the S&L boom and bust in the late 1980s; and the dotcom bubble and bust in the late 1990s. In 2007/08 another credit cycle that developed through a particular evolution of the securitisation process was fuelled by mortgage-based instruments.

Minsky rejects the neoliberal beliefs as the working of financialised capitalism is assumed to endogenously generate instabilities and to evolve through booms and busts cycles. To support this assertion Minsky identifies the evolution of the financial structure's stability through three particular situations in monetary commitments among agents: hedge finance, speculative finance and Ponzi finance. The hedge financing gives greater stability whereas speculative and Ponzi schemes tend to increase fragility. The hedge finance is founded on the expectations of an excess of cash flows from participation in income production.

The speculative finance⁹ comes into the picture when the cash payment commitments on debts exceed the expected gross capital income. Thus a speculative unit finances a long position in assets by short run liabilities. Consequently, higher interest rates lower the present value of cash receipts and cash flows yield a negative excess at high interest rates. In a Ponzi finance scheme the outstanding debts grow due to interest on existing debt such that the near term cash flows fall short of the near term interest payments on debt. In this case, the fulfilment of payment commitments depends on the continuity of near borrowings. The Ponzi unit faces a solvency problem¹⁰ such that its viability in time “depends upon the expectation that some assets will be sold at a high enough price sometime in the future” (id.: 23). A Ponzi finance consists in borrowing to hold assets which yield no or little income in the expectation that at some date the market value of the assets held will yield enough to clear debt-commitments. As the present value of assets held depends on interest rates, the solvency of a Ponzi agent is related to the changes of interest rates and to the expectations of future cash flows. Therefore the problem is related to the fact that in a global financial world the debt-commitments can be swelled according to speculative expectations which are fuelled by the aim of making money through available opportunities on markets without considering the development of the productive capacities of income-creating units. This can be possible thanks to expanded financial liberalisation and financial innovations. The financial liberalisation usually induces “two speculative pressures: expectations-induced and competition-coerced, both of which contribute to the increased presence of short-term, high-risk speculative transactions in the economy and to increased vulnerability to financial crises” (Arestis, 2001: 172).

In the development of economies since the 1980s, it was a prolonged period of increase of pyramidal debt creation¹¹ where the borrowing was continuously needed to meet existing loans and large financial market underwriters transformed illiquid non-commercial mortgages into liquid assets via securitisation. The innovative dynamics of the financial capitalism enlarges these operations and lead agents through various techniques –as securitisation– to

⁹ Minsky states that: “The speculation is the refinancing will be available when needed” (1982: 26). So, “(...) a speculative unit has near term cash deficits and cash surpluses in later terms” (id.: 27).

¹⁰ An economic unit is solvent only “as the value of its assets exceeds the value of its debts, changes in interest rates cannot affect the solvency of a unit that hedge finances” (Minsky, 1982: 25) while the liquidity means “that one can meet all of his or her commitments for cash outflows as they come due” (Davidson, 2008: 670).

¹¹ In such a process, the Ponzi finance purchaser can issue successive sets of debt securities that aim to provide enough cash inflow to meet the upcoming contractual cash outflows. This increases the level of future contractual cash outflows at any time (Davidson, 2008). In the subprime mortgages, borrowers have expected the rise of the value of their assets (houses, securities, etc.) as the speculative bubble continued to rise.

create profitable activities in the short run. The securitisation is not a new phenomenon. As Minsky stated it (1982), the securitisation began in the US mortgage market and enabled the saving and loan banks to continue to initiate mortgage even though their funding ability was sorely compromised. The ambiguous advantage of the securitisation is that it reduces limits of bank initiative to create credits (there is no direct need of bank capital) for the credits do not absorb bank reserves. Then the securitisation reduces the weight of the part of the financing structure that the central bank is committed to protect. But for holders, a change in interest rates (a sudden rise) or in expectations on future values of assets (fizzling out of speculative expectations) can provoke a need to sell position which may lead to a drastic fall in the price of securities. Whalen (2007) points out that the fizzling out of mortgage market in the US seems to start explicitly in August 2007 when a third of home loans failed to close as brokers could not sell them to investors because investors remarked that they could not sell existing loans in their portfolios at any price. Whalen reports that at this time \$1.2 trillion asset-backed commercial paper market was freezing up (ibid: 9).

Calomiris (2007) reports that between 2000 and 2005, securitised non-conforming mortgages had increased from 35% to 60% (and to 65% in 2007), and subprime mortgage originations rose from \$160 billion in 2001 to \$600 billion in 2006. In the same way, the share of prime mortgage finance decreased from 78.9% in 2002 to 50.1% at the end of 2006 letting the non-prime credit increasing sharply. This interconnectedness of innovations in products and processes permitted securitised mortgages to become re-securitised as backing for collateralised debt obligations¹². This process of securitisation as other financial derivatives involves expectations about the uncertain future and its evolution depends on fragile and not well ordered microeconomic behaviour. Illing notices that highly leveraged institutions which transform risk into securities (as Fannie Mae and Freddie Mac) “usually increase their exposure to systemic risk. They seem to hold the riskiest tranches of the loans they initiate (...). Thus in the case of serious aggregate shocks, the economy will be made even more fragile: as soon as managers try to minimize their losses by selling bad loans, fire sales will be triggered. (...) There is thus the danger that, beyond a certain threshold, the virtuous cycle turns into a vicious one, creating the risk of a financial meltdown” (2008: 82-83).

¹² For instance, at the end of 2006, 39.5% of existing collateralised debt obligations pools covered by Moody's consisted of mortgage-backed securities, of which 70% were subprime or second-lien mortgages (see Calomiris, 2007). Chomsisengphet and Pennington-Cross (2006) show also that the securitised share of subprime loans increased from 40.5% in 2000 to 58.7% in 2003. This share passed to 74.8% in 2006 (the securitisation rate=securities issued divided by origination in dollars).

Such an evolution is a characteristic of developed financial economies where banks play multiple roles. They create papers structuring the credit and accepting the borrowers' promises to repay. They create securities and present them as sound investment vehicles –through their cooperation with credit-rating agencies-. They are also market makers (of a secondary market) as underwriters of securities issued. Thus, banking system bundles mortgages into mortgage-backed securities and sell these packaged products to investment funds which use them as collateral for highly leveraged loans as these securities are highly rated by private evaluators. These loans are used in turn to buy more mortgage bundles. By this way, such products are used to create other securitisation conduits that are also connected to short-term asset-backed commercial paper.

It is obvious that there are strong links between the mortgage market and the leveraged loan markets. Margin requirement for hedge funds and for other leveraged operations becomes lower as the competition among lenders for prime brokerage services for hedge funds became fierce. The corporate borrowers' high leverage ratios decline credit standards. And the negative-amortisation-based loans fuel "originate and distribute models" while the evaluation of such loans is below what could be justified by the economic fundamentals. Subsequently to the fall of home prices, the re-pricing of risk in credit markets led in the last sequence to a credit crunch in the LBOs and corporate credit markets with the rise of the risk aversion of investors and of the credit default spreads.

4. Some consistent regulatory principles

The core purpose of the Minskian approach lies in the analysis of the functioning of a monetary economy with sophisticated financial institutions (the Keynesian *financing veil*) and in the study of its endogenous financial instability (Minsky, 1982, 1992, 2008). He maintains that the turbulence of the economy that operates against prudent investment and finance is the general feature of capitalism. To deal with this issue, he points to the evolution of the regulatory framework through the size and duties of public authorities (government, central bank and other supervision agencies) and through the loosening of credit standards.

Since the 1970-80s the general economic orientation has been conducive to short-run speculation rather than to the long-run capital development of the economy. As it appears that the so-called success of regulation in the Great Moderation era was an illusion and the financial instability was resulted from poorly implemented regulatory policies and excessive build-up of risk, a relevant approach of financial stability should be designed. From this perspective, some assessments can be suggested to pave the way for more consistent policy principles.

The harmony of self-interests seems not to be guaranteed in a multi-dimensional financial world which needs to be constrained by consistent regulation (Leijonhufvud, 2009). We have to take into account the error that consists to make no distinction between free markets and unregulated markets (Acemoglu, 2009) and to avoid the ambiguous belief that market mechanisms are sufficient to reallocate resources towards efficient uses. So a new regulatory framework that contains rules aiming the systemic financial stability and new supervision principles to check the implementation of such rules still remain to be elaborated (Ülgen, 2011b). Therefore, one can consider various propositions for a macro-prudential approach (Galati and Moessner, 2011) focusing on the financial system as a whole and not on individual institutions in order to treat aggregate risk as endogenous and to limit the risk of episodes of system-wide distresses and their costs for the economy. From this perspective, the financial instability can be defined as a situation in which various shocks that come into the picture in the evolution of the economy are sufficient to produce financial distress. Borio and Drehmann (2009: 4) define the financial instability “as a set of conditions that is sufficient to result in the emergence of financial distress/crises in response to normal-sized shocks” and the financial distress “as an event in which substantial losses at financial institutions and/or their failure cause, or threaten to cause, serious dislocations to the real economy” (ibid: 2). In this sense, the instability is the inability of the financial system to face accumulated risks as those risks grow beyond the resilience of debt commitments regarding the observed disequilibria. Such a definition can be related to the Minsky-Kindleberger tradition of endogenously cyclical capitalism that focuses on the financial system as a whole, as opposed to micro-prudential approach-based analysis of risks. Financial instability then comes from the gradual build-up of systemic fragilities often associated with aggressive risk-taking.

One should actually remark the uncertain nature of the market economy and the limits of individual rationality as regards the instability concern of liberalised financial systems. The decentralised monetary capitalist economy works under the rule of the fallacy of composition (Ülgen, 2011a) such that the combination of individually rational decisions does not give an optimal economic system: “the fallacy of composition brings it about from time to time that individual actors all act rationally but in combination produce an irrational result, such as standing to get a better view as spectators of sport or, more dramatically, running for the exit in a theater fire” (Kindleberger, 1989: 243). In case of distress, markets clear by rationing and this worsens information about borrowers and then implies more deterioration of monetary and financial relations. Decentralised individual decisions not only contribute to the accumulation of systemic fragilities but they are also pyromaniac in the face of distress. Minsky argues then: “In a decentralized private-enterprise economy with private commercial banks, we

cannot expect the money supply to increase sufficiently to offset the effects of a sharp increase in uncertainty upon inside asset prices. Conversely, we cannot expect the money supply to fall sufficiently to offset the effects of a sharp decrease in uncertainty. We should expect the privative, profit-maximizing, risk-averting commercial banks to behave perversely, in that with a decrease in uncertainty they are willing and eager to increase the money supply and with an increase in uncertainty they act to contract the money supply” (1982, p. 132). Therefore, distress may provoke a panic behaviour and then have consequences exceeding its intrinsic significance and resulting in systemic freeze on debt-commitments. In this case markets are no more able to recover their social function. In view of this situation, public interventions are required as the unique solution in order to calm down panicked and disorganized individuals’ madness. The continuity of economic relations calls for a coordinated and planned intervention of authorities and new regulatory schemes are to be developed and implemented beyond the liberal ideological beliefs.

Even if it does not seem to be relevant to suggest unique and standardised remedies against the endogenous financial instability of the modern capitalism, one may imagine some general policy principles which could be suitable for the aim of better stabilisation of the functioning of financial markets. In his study of some threats of financial crisis occurred in the post-war period¹³, Minsky argues that each of these threats has been aborted by a combination of support operations by the Fed and a large public sector (the “big government”) aiming to sustain the reproduction of a “paper world” (1982: 63). In these episodes of instability, the Fed bolstered the system through its protection of banks and other financial institutions and this was accompanied by a large deficit, substitute for investment in sustaining deficit profits (id.: 84). Thus, the absence of great depression in the post-war period is due to the presence of a big government in the economy and to the willingness of the Fed to act promptly as a lender of last resort. The big government, through the combined effects of its policies and interventions as a provider of high-grade default-free liabilities to financial markets in case of reversion from private debt, can calm markets’ ardour down and help to stop to plunge to a deep depression: “If an economy is given to intermittent endogenously determined incoherence then devices (regulations and interventions) that contain the incoherence or impose coherence can improve performance. Central banks are just such devices; big government whose deficits sustain aggregate profits in times of recession are another such

¹³ The first is the credit crunch of 1966 centred around a run on bank-negotiable certificates of deposit, the second was observed in 1970 as a run on the commercial paper market after the failure of the Penn-Central Railroad and the third has occurred in 1974-75, centred around the speculative activities of big banks with the failure of the Franklin National Bank of New York in December 1973 through a run on its overseas branch.

device” (Minsky, 1992: 12). Then beside the government financial presence in the economy, the central bank plays a crucial role through its two main functions: the stabiliser and the lender of last resort.

The time of interventions seems to be of great importance. Comparing too late and too little interventions and too soon and effective exercise of the lender of last resort function of the central bank, Minsky remarks that in the first case, the decline in asset prices would lead to a deeper recession. Therefore, he says that the error of easing too soon only delays the problem of constraining a euphoric situation, it may be that the best choice for monetary policy really involves preventing those more severe losses in asset prices that lead to deep depression, rather than preventing any disorderly or near-crisis conditions.

In case of generalised financial meltdown, Minsky (1992: 13) argues that the specific aim of the government refinancing of banks is to prevent a broad set of institutions to need to improve positions by fire sales. He suggests that failing banks should be treated as institutions which would continue to operate after an infusion of equity through ‘The Reconstruction Finance Corporation’ that becomes the banks owner and replaces the management. By this way many non-performing assets could be treated as ‘work outs’ rather than as requiring foreclosures and liquidations: “Continuing the “failed” banks as refinanced independent institutions, though government owned, is more conducive to economic recovery than the [present] treatment, in which organizations are destroyed and the non-performing assets of failed institutions act to depress asset prices” (1992: 14).

The identification of the financial vulnerability through some observable phenomena can give public authorities a relevant direction to channel their interventions. For instance, when there is a strong growth of financial payments relative to income payments, a decrease in the relative weight of outside and guaranteed assets in the totality of financial asset values and a rapid growth of asset prices nourished by high euphoric expectations, the authorities (external supervision agencies - no profit-seeking private institutions - and central banks) should intervene in order to tighten regulatory conditions on speculative markets. The central bank should use its monetary powers to guide the evolution of financial markets in directions that are compatible with financial stability in the longer run rather than improvise controls that put out fires but which allow the underlying market situation to remain unchanged (Minsky, 1982: 181-184). But it is obvious that these policies cannot be elaborated or imagined if the prudential supervision agencies do not believe that the spontaneous free market mechanisms can involve the economy in deep instability. As Bootle states, “economies can get stuck in a state of depression from which individual actors, whether people or companies, can find escape. The state is the only agent in

society capable of working for the collective interest on a sufficient scale” (2009: 34). That does not mean that we have to over-centralize the working of our economies but to leave a priori reasoning about the nature of the capitalist economy. In our modern world, “For the viability of economic relations, we have to imagine a good financial society in which the tendency by business and banks to engage in speculative finance is constrained” (Minsky, 1982: 69).

Conclusion

In the aftermath of the 1970s crises, one can observe radical policy shifts which theoretically and practically rely on the hypothesis of efficient free markets. The liberal capitalism becomes therefore the political reference of a new deregulated financial system. The deep cause of the ongoing 2007/08 crisis is also related to the same institutional and political principles which led economies into myopic practices. Numerous instabilities since the 1980s through accelerated deregulatory reforms and financial innovations had been accompanied by governments’ bailouts that permitted continuous financialisation of economies and fuelled a new accumulation regime. Financial markets grew more than the real economy, the complexity and the opacity of new products and processes increased and became the dominant aspect of market relations.

Those changes can be analysed through two phenomena underlined in Minsky’s approach. The first is the evolution of the financial structure affecting the nature of primary assets, the extent of financial layering, and the evolution of financial institutions. The second consists of the financial impacts over a short period due to the existence of a euphoric economy that decreases the domain of stability of the financial system through portfolio transformations. As the market expectations remain directed to profitable evolution, the growing importance of speculative market operations leads agents to have more vulnerable postures in the aim of realising further gains. However, when the assets that agents hold reveal to be of longer term than their liabilities a rise in both long and short-term interest rates can lead to a greater fall in the market value of their assets than of their liabilities. Furthermore, the views as to acceptable liquidity structures are subjective and a shortfall of cash receipts relative to cash payment commitments can lead to quick and wide revaluations of desired and acceptable financial structures. When this kind of sensitivity spreads throughout markets, a general reluctance to finance appears and leads to a decline in the ability to sustain existing debt structure contradicting previous optimism. This initiates doubts about the future and agents try to hedge their positions and funds to reconsider financing plans of future investments. An explosive combination of commitments - inherited from the euphoria - and of current revenues - which seems to be less than expected levels - comes into the picture. The retreat from markets and the refusal to refinance imbalanced positions dry monetary and financial markets up.

Markets clear on a downward path and attempts by agents with shrunken income to meet their commitments by selling assets adversely affect agents initially quite liquid and solvent and may have a destabilising impact upon the entire economy. Unfortunately, the evolution of central banks' policies did not really take into account those characteristics of markets' behaviour and the new use of central bank powers has taken a form of financial brinksmanship: "The central bank acts so that the range of "possible" market conditions increases (...and) instead of acting as an insurer (substituting certainty for uncertainty) central banking has taken on some aspects of a casino (substituting uncertainty for certainty)" (Minsky, 1982: 180).

In front of the 2007/08 meltdown, policies implemented by the main central banks have somewhat been in the Minskian vein: reduction of central bank's rate, easier conditions on overnight borrowing, injection of cash into monetary markets, and so on. Also, some government supported institutions (as Fannie Mae and Freddie Mac in the United States) have been used to protect mortgage holders. But these interventions were event-led without trying to identify the problem as a structural crisis as they were remained rescue plans without structural reforms to improve the soundness of the financial system. More rigorous bank supervision and tighter regulation of financial markets should be elaborated. In this aim, the "all liberalisation" of financial markets must be discarded in favour of more realistic and objective regulatory framework which should have to deal with the characteristics of a decentralised monetary economy.

The major confusion in the current regulatory environment is the confusion between the market economy (and its stability) and the subsequent monetary and financial deregulation. The self regulatory mechanisms of markets rest on partial and subjective microeconomic criteria of individual units and are not armed to cope with the global stability concern of monetary systems. Opposite to the market efficiency hypothesis and the related assertion of counterproductive public policies, the endogenous financial instability hypothesis points to the necessary design and implementation of systemic-consistent regulatory rules which should take into account the macroeconomic results of decentralised micro decisions. The interpenetration and the deep links between different economies and firms make that the weight of idiosyncratic risks on the system's stability becomes decisive and the interconnections gain strength in the explanation of worldwide financial disequilibria. Therefore, more macroprudential measures seem to be necessary for tackling the financial crises in advance. Actually the efforts of central banks are part of a broader challenge of strengthening the safeguards against financial instability. But the basic question is how best this should be done: "The answer ultimately depends on how we think of financial instability, of its ultimate causes and implications" (Borio, 2003: 1982). Coping

with financial instability through the micro-founded liberal vision of self-regulating markets is not a relevant solution. The dominant tendency to implement various prudential supervision mechanisms in a decentralised way is not an efficient way of organising the systemic financial control and protection in a complex financial environment “especially since an effective defence against an emerging financial crisis may require coordination and consistency among the various units with lender of last resort functions” (Minsky, 1982: 4).

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